

**THE APPLICATION OF ENDURING RESOURCES LLC TO AMEND THE FIELD RULES FOR THE SPEARY (EDWARDS) FIELD, KARNES COUNTY, TEXAS**

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**Heard by:** Andres J. Trevino, P.E. on May 11, 2007

**Appearances:**

Mike McElroy  
Rick Johnston

**Representing:**

Enduring Resources LLC

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Field rules for the Speary (Edwards) Field were adopted in Oil and Gas Docket No. 02-071893, effective June 1, 1979. The rules are summarized as follows:

1. 467'-2,640' well spacing;
2. 640 acre gas units with 10% tolerance; maximum diagonal of 9,500';
3. allocation based on 100% acreage.

At the hearing Enduring Resources proposed the allocation formula be changed and based on 95% deliverability and 5% per well<sup>1</sup>. Enduring requests that the following rules be adopted for the field :

1. Designation of the field as the correlative interval from 13,420 feet to 13,880 feet as shown on the log of the General Crude Oil Company's Tibbs Lease, Well No. 1 (API 42-255-30228), Karnes County, Texas:
2. 330' - 660' well spacing provided: (a) no between well spacing minimum shall apply between vertical and horizontal wells, and (b) no between well minimum shall apply to horizontal wells that overlap less than 500 feet.
3. 640 acre gas units with optional 20 acre units, Maximum diagonal =  $475.933^*$  (acreage)<sup>1/2</sup>; additional acreage assignment formula for horizontal drainholes

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<sup>1</sup> Notice of Hearing proposes an Allocation formula based on 100% acreage. Request amended at hearing.

and,

4. Allocation is based on 95% deliverability and 5% per well.

This application was unopposed and the examiner recommends that the field rules for the Speary (Edwards) Field be adopted as proposed by Enduring Resources LLC.

### **DISCUSSION OF EVIDENCE**

The Speary (Edwards) Field was discovered in 1975 at a depth of approximately 13,450 feet. The field is a non-associated gas field which was plugged out in 2001. Currently there is only one producing gas well, which was drilled in 2006 and operated by Enduring. The allocation formula is currently based on acreage.

In 1979, the Commission adopted field rules for the field which provided for 660'-2,640' well spacing and 640 acre density. Cumulative production from the field is about 2.94 BCF of gas and 17,670 BC. Current production rate is about 650 MCFD.

Enduring is proposing to reactivate this previously plugged gas field by reentering vertical wells and/or drilling new horizontal wells. Enduring drilled a horizontal well, the Wessendorff No.1 in March 2006. The well had an initial potential of 3.66 MMCFPD and is estimated to have an economic ultimate recovery of about 1 BCF of gas.

The Edwards limestone is a fractured limestone similar to the Austin Chalk limestone. Amending the current field rules will allow Enduring to drill horizontal wells that will intersect the fractures and produce additional gas reserves effectively and efficiently.

Enduring provided drainage calculations for two wells in the field which demonstrate the need for optional 20 acre density. These two wells are plugged vertical wells and the calculations are based on the production prior to plugging. The Tipps No. 1 has 6.5% porosity, 20% water saturation and 130 feet of pay. With an ultimate recovery of 2.459 BCF, this well drained 39.0 acres. The Alexander No. 1 has 6.5% porosity, 20.0% water saturation and 110 feet of pay. This well ultimately recovered less than 184 MMCF of gas and drained 3.7 acres.

Enduring is requesting slightly closer between well spacing in conjunction with the 20 acre optional rules. This additional flexibility will allow for optimum placement of horizontal drainholes between other horizontal drainhole wells.

Because the proposed designated interval contains multiple porosity developments, a two factor allocation is required by statute. The allocation will be based on 95% deliverability and 5% per well.

**FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Speary (Edwards) Field was discovered in 1975 at a depth of approximately 13,450 feet. The field is a non-associated gas field with one producing gas well.
3. Rules currently in effect for the field provide for 467'-2,640' well spacing, 640 acre density and no horizontal well rules. The allocation formula is based on 100% acreage.
4. Cumulative production from the field is about 2.94 BCF of gas and 17,670 BC. Current production rate is about 650 MCFD.
5. An optional 20 acre density rule is appropriate for the field.
  - a. The Tipps No. 1 ultimately recovered 2.4 BCF and drained 39.0 acres.
  - b. The Alexander No. 1 ultimately recovered less than 184 MMCF of gas and drained 3.7 acres.
  - c. Net pay in these two wells were 130 feet to 110 feet respectfully.
6. In order to efficiently and effectively drain the reservoir, horizontal wells must be drilled. Horizontal drainholes will maximize reservoir contact and will penetrate fractures within the Edwards limestone Formation.
7. A 330' - 660' well spacing for vertical wells and no between well spacing for horizontal drainhole wells and any vertical well, or between the drainholes of two horizontal drainhole wells with in the first 500 feet or the last 500 feet of either horizontal well will provide flexibility in developing this field using horizontal drainhole wells.
8. Allocation based on 95% deliverability and 5% per well is a reasonable allocation formula which satisfies statutory requirements.

**CONCLUSIONS OF LAW**

1. Proper notice of this hearing was issued.
2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.

3. Amending the field rules for the Speary (Edwards) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

**RECOMMENDATION**

Based on the above findings and conclusions of law, the examiner recommends that the Commission amend the field rules for the Speary (Edwards) Field as proposed by Enduring Resources LLC.

Respectfully submitted,

Andres J. Trevino, P.E.  
Technical Examiner